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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/183,621	10/30/1998	MARTIN LIVESEY	49658-025	3358

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EXAMINER
GOOD JOHNSON, MOTILEWA

ART UNIT	PAPER NUMBER
2672	26

DATE MAILED: 03/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

	Application No.	**Applicant(s)**
Office Action Summary	09/183,621	LIVESEY, MARTIN
	Examiner	**Art Unit**	
	Motilewa A. Good-Johnson	2672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>21 January 2003</u> .

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *2-7,9-14,16 and 18-25* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *2-7,9-14,16 and 18-25* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some *   c) ☐ None of:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____ .

DETAILED ACTION

1.   This action is responsive to the following communications: application, filed on

10/30/1998; Amendment A, filed on 09/25/2000; Appeal Brief, filed on 08/22/2001;

Amendment B, filed on 02/27/2002; Request for reconsideration, filed on 09/04/2002.

2.   Claims 2-7, 9-14, 16 and 18-25 are pending. Claims 2, 3, 7, 9, 10, 13, 16, 18

have been amended. Claims 21-25 have been added.

3.   The present title of this application is "Aperiodic Tiling of Textured Images" (as

originally filed).

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 2-7, 9-14, 16 and 18-25 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Jensen, U.S. Patent Number 5,956,043 in view of Glassner's

Notebook, Aperiodic Tiling, IEEE Computer Graphics and Applications, May/June 1998,

pages 83-90.

As per independent claims 2, 3, 9 and 10, a method for performing textured

mapping of a target area . . . comprising the steps of: receiving input that defines a

texture image; Jensen discloses obtaining and identifying a textured tile, col. 6, lines 10-11, and scanning an image, col. 7, lines 45-46; and covering the target area in an aperiodic tilling pattern with tiles generated from said texture image . . . scanning one or more images into memory. Jensen discloses pulling the texture from memory, digitizing an image, col. 6, lines 13-17.

However, it is noted that Jensen fails to disclose aperiodic tiling. Glassner discloses on page 85, aperiodic tilings for texture patterns and covering an area in an aperiodic tiling pattern with tiles. It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the texture tile rotation of Jensen the aperiodic tiles disclosed in Glassner for added randomness and irregularity in textured polygon patterns used in computer graphics.

With respect to dependent claims 4, 11 and 12, covering the target area with one or more aperiodic tiles . . . based on the aperiodic tiling pattern; and mapping a corresponding textured tile to each of the one . . . However, it is noted that Jensen fails to disclose aperiodic tiles. Glassner discloses on page 84, covering a patch with aperiodic control curves based on an aperiodic patch of a texture image. It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the texture tile rotation of Jensen the aperiodic tiles disclosed in Glassner for added randomness and irregularity in textured polygon patterns used in computer graphics.

With respect to dependent claim 5, generating a tiling . . . associated with tiles . . covering the target area . . . and mapping the textured tiles . . . Jensen discloses covering an entire rotated region, col. 2, lines 22-32, and using the rotated texture to

cover a texture tile. Glassner discloses on page 86, generating a tiling based on aperiodic tiling pattern covering the target area and mapping the texture tiles.

With respect to dependent claim 6, determining a substitution tiling level; and performing a tiling substitution . . . Jensen discloses generating a seamless rotated texture tile, col. 3, lines 9-19. Glassner discloses on page 87, rotating and flipping the tiles orientation, which is changing the shape of the control points for the control, curve.

As per independent claims, 7 and 13, a method for performing textured mapping of a target area . . . comprising the steps of : receiving input that defines a texture image; Jensen discloses obtaining and identifying a textured tile, col. 6, lines 10-11; and covering the target area in an aperiodic tiling pattern with tiles generated from said texture image . . . receiving input . . . generating the texture image using a computer aided drawing program. Jensen discloses generating the texture from an outside vendor, col. 6, lines 15-17.

However, it is noted that Jensen fails to disclose aperiodic tiling. Glassner discloses on page 85, aperiodic tilings for texture patterns and covering an area in an aperiodic tiling pattern. It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the texture tiling of Jensen the aperiodic tiling disclosed in Glassner for added randomness and irregularity in textured polygon patterns used in computer graphics.

With respect to dependent claim 14, determining a substitution tiling level; and performing a tiling substitution . . . Jensen discloses generating a seamless rotated

texture tile, col. 3, lines 9-19. Glassner discloses on page 87, rotating and flipping the tiles orientation, which is changing the shape of the control points for the control curve.

As per independent claims 16 and 18, a system for performing a textured mapping . . . comprising: a display screen; Jensen discloses displaying the texture on a computer screen, col. 7, lines 19-25; a target area on said display screen; memory storing a textured image; Jensen discloses storing the texture in local memory, col. 7, lines 19-25; a plurality of texture tiles . . . ; and means for selecting said aperiodic pattern. Jensen discloses period selection for a supertile, col. 8, lines 1-18.

However, it is noted that Jensen fails to disclose aperiodic tiling. Glassner discloses on page 85, aperiodic tiling in computer graphics for texture patterns and covering an area in an aperiodic tiling pattern with tiles from image. It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the texture tiling of Jensen the aperiodic tiling disclosed in Glassner for added randomness and irregularity in polygon patterns used in computer graphics for texturing images.

With respect to dependent claim 19, means for covering the target area with on or more aperiodic tiles . . . based on the aperiodic tiling pattern; and means for mapping a corresponding textured tile . . . Jensen discloses covering an entire rotated region, col. 2, lines 22-32, and using the rotated texture to cover a texture tile.

With respect to dependent claim 20, means for generating a tiling . . . based on said aperiodic tiling pattern; means for covering the target area . . . ; and means for mapping the textured tiles . . . Jensen discloses covering an entire rotated region, col. 2, lines 22-32, and using the rotated texture to cover a texture tile.

With respect to dependent claims 21-25, selecting said aperiodic tiling pattern from a plurality of tiling patterns that are available . . . However, it is noted that Jensen fails to disclose aperiodic tiling. Glassner discloses on page 87-88, variations of the tiling pattern, which constitutes control of periodicity by the aperiodic/periodic selection. It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the texture tiling of Jensen the aperiodic tiling disclosed in Glassner for added randomness and irregularity in polygon patterns used in computer graphics for texturing images.

Response to Arguments

6.   Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Motilewa A. Good-Johnson whose telephone number is (703) 305-3939. The examiner can normally be reached on Monday - Friday 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Razavi can be reached on (703) 305-4713. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is (703) 306-

0377.

Motilewa A. Good-Johnson
Examiner
Art Unit 2672

mgj
March 14, 2003

JEFFERY BRIER
PRIMARY EXAMINER